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Running a cardiology consult service during a pandemic: Experiences from the front lines

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ABSTRACT

Millions of deaths worldwide have been attributed to the novel coronavirus (COVID-19). As case counts increased in the United States and resurgence occurred in Europe, health care systems across the country prepared for the influx of acutely ill patients. In response to this, our cardiology consult service was called to aid in the management of COVID-19 patients. We describe our experiences and the changes that were implemented.

Keywords: Advanced practice providers; cardiology consult; COVID-19; COVID-19 resurgence; nurse practitioner.

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Worldwide death rates attributed to coronavirus (COVID-19) continue to rise (World Health Organization, 2020a). With the resurgence of COVID-19 in Europe and the United States (World Health Organization, 2020b), health care systems across the country prepared for admissions of acutely ill patients. In March of 2020, as COVID-19 admissions began to intensify, our specialty service was called to assist in the management of these patients.

Normal operations

Our quaternary care hospital founded more than 100 years ago, has grown into a multihospital health care system with its 900-bed main campus facility located in Detroit, Michigan. The cardiovascular consult service team at the main campus facility under usual circumstances consists of a senior staff cardiologist, two nurse practitioners (NPs), one cardiology fellow, as well as one to four residents. The number of providers on service can vary significantly. Many months this service is overwhelmingly large with multiple providers present at one time. At other times, the number of team members is less than adequate. The general cardiology consult service daily operations are primarily run by two NPs. The cardiology fellow is expected to assist, however, their additional triage and emergency department responsibilities often require them to be

elsewhere. Assignments are dispersed by approximately 7:30 a.m. and rounding begins at 9 a.m. Rounding ends around noon, and the cycle begins again after 1 p.m. The goal is to end the day at 5 p.m. Between October and April, it is not unusual to leave the hospital well after 7 p.m.

Rapid changes

Coronavirus-19 hit our city hard in March 2020, and case counts immediately began to rise (State of Michigan, 2020). Hospital administrators prepared in advance for COVID-19 admissions; however, no one was prepared for the onslaught of admissions, and the subsequent chaos that ensued. The changes were immediately evident as we rounded throughout the hospital. As the intensive care units began to fill, step down units were converted to intensive care facilities. Elective surgeries were cancelled, and surgical floors became COVID-19 units. Overhead calls for anesthesia stat occurred every 15 min. Ventilators were in high demand. Infusion pumps were attached to long extension cords and lined the hallways outside of patient rooms. Everyday, there were numerous emails from multiple administrators notifying employees of updated protocols. All exits and entrances to the building were consolidated to the same one entrance and exit. Mandatory screenings were initiated. Security was on standby to ensure all employees cooperated. Social distancing was enforced. Wearing a mask was not a choice. Gone were the days of in-person group meetings, classroom didactics, and buffet lunches.

Running the service

Changes occurred everywhere including within the division of cardiology. Clinical rotations were cancelled for all students, and many support staff personnel were deployed

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elsewhere to assist with COVID-19 screenings. As some medical residents throughout the hospital became ill with COVID-19, the residents on our service were eventually reassigned elsewhere. Our team now consisted only of two NPs and one fellow. Eventually, our division decided to pool resources and create one schedule to include all the advanced practice providers from within the various cardiology services, which included electrophysiology, advanced heart failure, structural heart disease, cardiac catheterization laboratory, and the general cardiology consult team. This allowed for a calculated redeployment of personnel within and possibly to outside of the department. As time progressed, only two individuals at a time were working on the cardiology consult service (two NPs or one NP and one cardiology fellow).

Although the hospital was filled with primarily COVID-19 patients, the caseload for the service had decreased. Under normal circumstances, a full hospital during the winter months is synonymous with a busy general cardiology service. However, this was not the case. It has been well documented that admissions for acute coronary syndromes had declined globally (Braithe et al., 2020; Gitt et al., 2020; Mafham et al., 2020). Troponin elevation from myocarditis was an expected finding in COVID-19 patients (Siripanthong et al., 2020), but this scenario did not elicit a huge demand for cardiology evaluations. In retrospect, having only two individuals to run what is normally a busy service was actually adequate staffing.

Keeping it safe

Most of the patients we were asked to see were COVID-19 positive or highly suspected of being COVID-19 positive who had elevated troponin levels. To preserve personal protective equipment (PPE) for nurses and care partners who were regularly providing direct care, a history was obtained by contacting the patient by telephone from outside the room. Further history was obtained by reviewing the chart, including review of imaging studies, laboratory tests, telemetry, electrocardiograms, and outside records when available. To avoid the spread of infection, a bedside physical examination was not performed. Examination highlights were provided by a member of the primary team. Depending on the clinical condition of the patient, the staff cardiologist would personally examine the patient. A full consult note was placed in the electronic medical record that documented how and why the information regarding the history and physical were obtained.

Psychological impact

Although the workload was less than normally expected, there was a tremendous amount of stress related to the fear of becoming infected as the shortages of PPE continued and some of our colleagues became ill. We continually cleaned the hard surfaces of our office. As the

weeks went on, bleach wipes were less available. Hands were more than frequently washed. Hand sanitizing stations were often empty of sanitizer. Dress clothes were swapped out for scrubs, and many personnel changed their clothes and shoes before leaving the hospital. All of our behavioral changes occurred while having minimal direct contact with infected patients.

Hospital visitor restrictions were initiated and staff were forced to watch patients suffer from social isolation and lack of emotional support normally provided by the presence of family and friends. The medical and nursing staff became surrogate social support providers. Furthermore, patients often died without family members present. There was also the personal loss of loved ones from COVID-19 that further exacerbated one's fears. Funerals and memorial services were essentially nonexistent, thereby exacerbating the emotional toll on one's well-being.

Conclusion and final recommendations

It is our intention to share our experiences with other NPs to provide them with the tools needed to prepare for potentially future pandemic crises. Nurse practitioners are now employed in a variety of settings, and one of the most frequently identified attributes of NPs were the consistent presence in clinical environments where there was a regular rotation of personnel (Hurlock-Chorostecki et al., 2016). The continuity of care that the presence of the NP provides on the cardiology consult team enables residents to be reassigned if necessary and also allows the fellow to deal with acute issues elsewhere. Furthermore, the NP practices under delegated authority within the hospital system, thereby allowing for independence of practice for the management of routine cardiology problems. The NP is also the readily available resource person who can quickly provide clinical direction to other health care providers and assist patients with follow-up care.

Numerous studies have shown that NPs provide quality care including specialty care services (American Association of Nurse Practitioners, 2020). The knowledge and experience that NPs possess oftentimes place one in the forefront of rapid changes. Although every person's life changed with the onset of COVID-19, the sudden changes observed in the hospital setting transpired with urgency and fervor. Adaptability was identified as key to accomplishing tasks while preparing for the unexpected during the COVID-19 pandemic (Ammar et al., 2020). In response to this normal operations in the management of our service rapidly changed. We underwent significant staff reduction and accepted that there would be only two individuals to manage the service. This ultimately proved to be sufficient. We also made changes in our approach to patient care to preserve PPE and reduce the risk of infection. Furthermore, all the advanced practice providers within our cardiology division took turns being redeployed to care for COVID-19 patients on the cardiac units.

Based on our observations, we would also like to provide some advice to those who would find themselves in similar circumstances. When responding to a pandemic, Wu et al. (2020) recommends that health care institutions foster an organizational culture of resilience utilizing three strategic principles. First, leadership should be focused on creating an environment of resilience by providing a clear, optimistic, and realistic plan of action as well as providing frequent and open communication with staff. The authors further recommend that leadership make an extra effort to express gratitude for the burden of work they are experiencing. We would additionally recommend that the burden of work and any incentives be spread equally to include all providers and support staff to avoid creating an environment of resentment and anger instead of building one of resiliency. Second, communication regarding COVID-19 should be up-to-date and be structured in a format that makes the employee feel empowered and not heighten anxiety (Wu et al., 2020). Although receiving up-to-date news is crucial for day-to-day operations in a pandemic, new changes should not make the employee feel as if they are being bombarded with too much information. A central location such as a specific institutional page where information is regularly updated with news and resource information would reduce the sense of being overwhelmed. Third, providing a continuum of mental health support for employees is necessary to preserve psychological well-being (Wu et al., 2020). We would anticipate that mental health services will likely be needed for months and possibly years after the pandemic is gone.

As we move into 2021, it is our hope that the lessons we learned in 2020 will help health care administrators and health care providers respond more efficiently at the onset of the next pandemic.

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